OCZ Technology

Z-DRIVE R4

PCI-EXPRESS SOLID STATE DRIVE

Installation & Quick Start Guide

Rev. 1.1

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Welcome!

At OCZ we have one primary goal, and that is to ensure every customer is 100% satisfied. If you have any questions during or after the installation process, please contact our industry-leading field sales engineering team who offer direct support for enterprise level products, including the Z-Drive R4:

Phone: 1-408-440-3403

Online: http://www.oczenterprise.com/contactsupport.html

The following instructions are a general guideline for installation and should act as a complement to the system's user manual.

List of Items in the Z-Drive R4 Full Height Box

- Z-Drive R4 FH (Full Height) x8 PCIe 2.0 card in full height bracket
- Z-Drive R4 Driver/User Guide CD

List of Items in the Z-Drive R4 Half Height Box

- Z-Drive R4 HH (Half Height) x8 PCIe 2.0 card in half height bracket
- Z-Drive R4 Driver/User Guide CD
- Full height bracket

System Requirements

Supported Operating Systems

Z-Drive R4 supports both Windows 32-bit and 64-bit, and x86 architecture. Please update to the latest OS Service Pack/Release. Please see the OCZ Enterprise website for any updated operating systems support.

Microsoft Windows

- Windows Server 2003
- Windows 7
- Windows Server 2008
- Windows Server 2008 R2

Linux

- Red Hat Enterprise Linux 6.2/6.1 64-bit
- Oracle Enterprise Linux 5.4 64-bit
- CentOS 6.2/6.0/5.8/5.7 64-bit
- Ubuntu Desktop 11.10/10.10 64-bit
- SUSE Linux Enterprise Server 11 SP1 32-bit/64-bit
- Oracle Enterprise Linux 6.1 64-bit
- Ubuntu Server 12.04/11.10/10.10 64-bit

Cooling Requirements

The Z-Drive R4's controller requires that the server system is cooled at 100 Linear Feet Per Minute (LFPM). Please ensure proper airflow for normal operations of Z-Drive R4.

Hardware Requirements

Z-Drive R4 Minimum Hardware Requirements

- One PCIe Gen1 x8 slot.
- A system capable of accompanying a half height, half length PCIe card for Z-Drive R4 HH.
  OR
  A system capable of accompanying a full height, 3/4 length PCIe card for Z-Drive R4 FH.
- Minimum system memory as required by the operating system.

NOTE: For optimal performance, please follow "Z-Drive R4 Recommended Hardware Requirements".

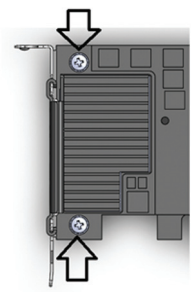
Z-Drive R4 Recommended Hardware Requirements

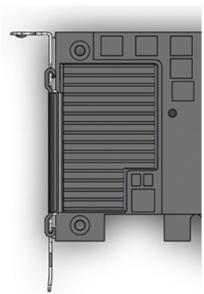
- One PCIe Gen2 x8 or x16 slot.

Switching the Bracket for Z-Drive R4 Half Height

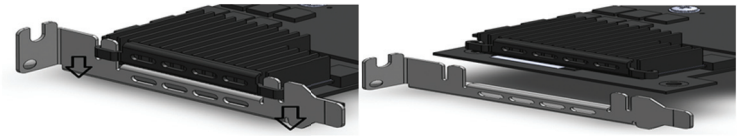
The Z-Drive R4 comes installed with the half height bracket. This bracket must be switched to the full height bracket (included) to be properly installed on the full height systems. The full height bracket is the only item required for this change.

1. Remove the 2 screws attaching the half height bracket to the Z-Drive R4

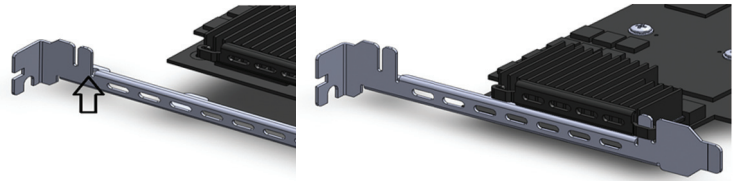




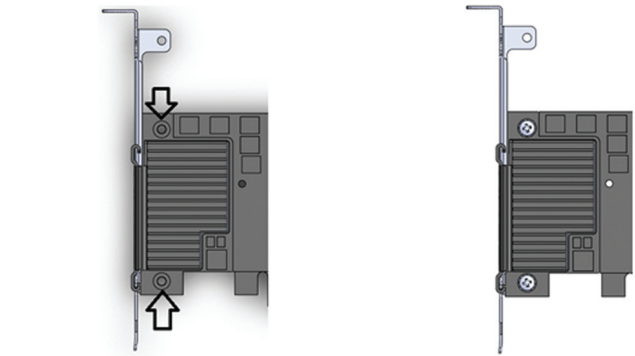
2. Slide the half height bracket off the Z-Drive R4



3. Slide the full height bracket on



4. Secure the full height bracket by screwing the 2 screws back into the bracket



Hardware Installation

1. Locate an available x8 or x16 PCI-Express slot (preferably Gen 2 for best performance) and carefully seat the drive into the slot.
2. The Z-Drive R4 HH comes in a half height form, so users with full height systems must first switch to the half height bracket. Please follow the section "Switching the Bracket for Z-Drive R4 Half Height".
3. Make certain that the drive board seats firmly into the slot. Screw the top of the board bracket into the system to ensure it remains in place.

Warning! With some operating systems, the Z-Drive R4 SSD offers the option to utilize the drive as either a primary boot drive for the operating system or as a storage device. Users should choose one of the following usages below.

Warning! Electrostatic Discharge (ESD) can permanently damage the Z-Drive R4 SSD. Please make sure to be properly grounded before handling the Z-Drive R4 SSD.

Software Requirements

Download the Latest Driver (Optional)

NOTE: The Z-Drive R4 box comes with a CD that includes the Driver for Z-Drive R4. For the latest driver, the user should download it from the OCZ Enterprise website.

1. The latest drivers for the Z-Drive R4 are available online at
   http://www.oczenterprise.com/drivers.html.

Download the Latest Firmware Update Tool (Optional)

NOTE: The Z-Drive R4 box comes with a CD that includes the firmware update tools (Windows and Linux) for Z-Drive R4. For the latest tool, user should download it from the OCZ Enterprise website.

1. The newest firmware tools for the Z-Drive R4 are available online at
   http://www.oczenterprise.com/updates.html.

Certifications

OCZ Enterprise Z-Drive R4 PCI Express (PCIe) SSD series works with industry leading hypervisor solutions including VMware (ESX) and Microsoft (Hyper V). In addition, Z-Drive R4 has gone through a detailed validation process with VMware, meeting their specific integration and interoperability standards to achieve VMware Ready™ status.

Extending the Life of the Z-Drive R4

Disable Defragmentation

Solid state disks do not require defragmentation, as it is a process typically meant for HDDs; unlike traditional hard drives, SSDs do not gain performance improvements from defragmentation but instead it produces unnecessary writes to the drive, shortening the lifespan of the Z-Drive R4. Since SSDs are based on flash technology, they must also be maintained differently. Please follow the instructions below to check and disable the Disk Defragmentation Scheduler in Windows 7 (other versions of Windows should be similar).

Note: Defragmentation is unnecessary on the Z-Drive R4.

1. Click on the Windows logo button, and type in "Disk Defragmenter". Click on "Disk Defragmenter" (See Figure 1).

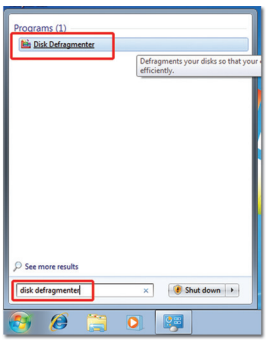


Figure 1: Find Disk Defragmenter

2. Under the "Disk Defragmenter" window, check if defragmentation is scheduled. Click on "Configure Schedule…" (See Figure 2).

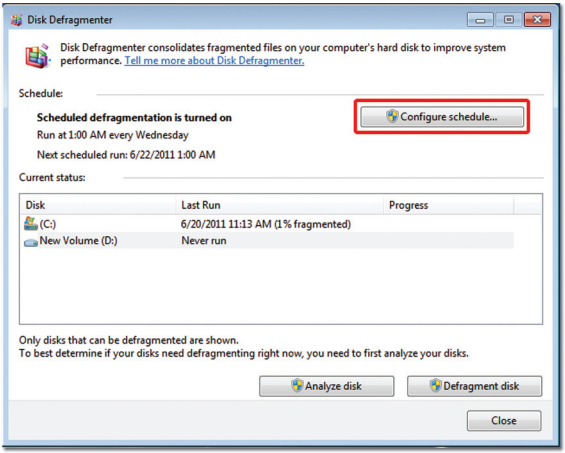

Disk Defragmenter
Disk Defragmenter consolidates fragmented files on your computer's hard disk to improve system performance. Tell me more about Disk Defragmenter.
Schedule:
Scheduled defragmentation is turned on
Run at 1:00 AM every Wednesday
Next scheduled run: 6/22/2011 1:00 AM
Configure schedule...
Current status:
Disk
Last Run
Progress
(C:)
6/20/2011 11:13 AM (1% fragmented)
New Volume (D:)
Never run
Only disks that can be defragmented are shown.
To best determine if your disks need defragmenting right now, you need to first analyze your disks.
Analyze disk
Defragment disk
Close

Figure 2: Disk Defragmenter Window with Scheduled Defragmentation

3. Un-check “Run on a schedule” and select “OK” (See Figure 3).

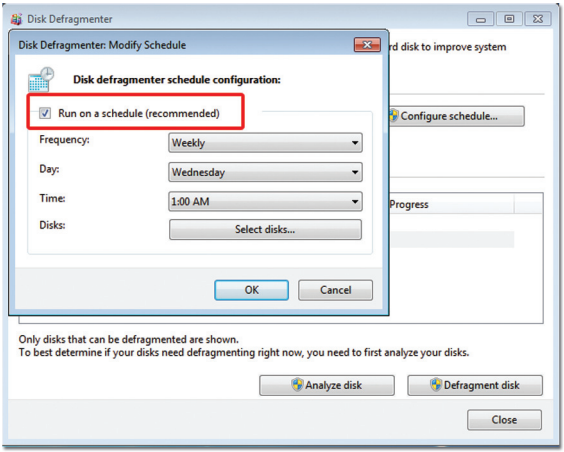


Figure 3: Disk Defragmenter Modify Schedule

4. The "Disk Defragmenter" window should look like this:

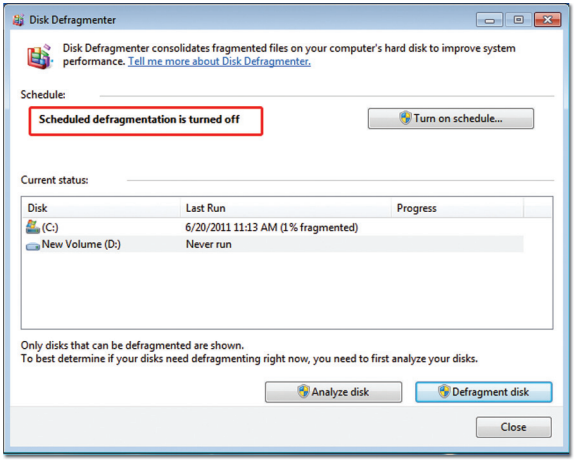

Disk Defragmenter
Disk Defragmenter consolidates fragmented files on your computer's hard disk to improve system performance. Tell me more about Disk Defragmenter.
Schedule:
Scheduled defragmentation is turned off
Turn on schedule...
Current status:
Disk
Last Run
Progress
(C:)
6/20/2011 11:13 AM (1% fragmented)
New Volume (D:)
Never run
Only disks that can be defragmented are shown.
To best determine if your disks need defragmenting right now, you need to first analyze your disks.
Analyze disk
Defragment disk
Close

Figure 4: Disk Defragment Window with no Defragmentation Scheduled

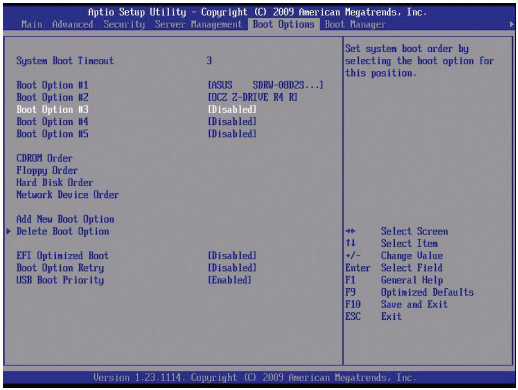
Installation Under Windows

Usage 1: Installation as a Boot Device

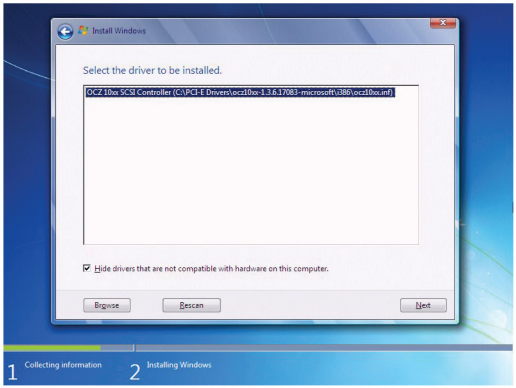
Installing Windows on Z-Drive R4

1. Make sure the boot order in the system BIOS is set to boot from the Windows installation CD in the CD drive.

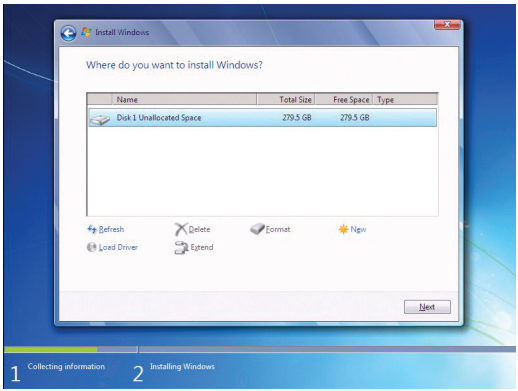
NOTE: Please consult the system's user manual for further detailed instructions on how to access the BIOS and modify its settings.


Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
Main Advanced Security Server Management Boot Options Boot Manager
System Boot Timeout 3
Boot Option #1 [ASUS SDRW-08D2S...]
Boot Option #2 [OCZ Z-DRIVE R4 R]
Boot Option #3 [Disabled]
Boot Option #4 [Disabled]
Boot Option #5 [Disabled]
CDROM Order
Floppy Order
Hard Disk Order
Network Device Order
Add New Boot Option
Delete Boot Option
EFI Optimized Boot [Disabled]
Boot Option Retry [Disabled]
USB Boot Priority [Enabled]
Set system boot order by selecting the boot option for this position.
++ Select Screen
↑↓ Select Item
+/- Change Value
Enter Select Field
F1 General Help
F9 Optimized Defaults
F10 Save and Exit
ESC Exit
Version 1.23.1114. Copyright (C) 2009 American Megatrends, Inc.

2. After booting from the CD, follow the onscreen installation instructions from Windows.
3. In the screen, "Where do you want to install Windows?," select the "Load Driver" button and load the driver from the CD or USB key that you created in the "Download the Latest Driver (Optional)" section. For 32-bit OS, load from the i386 folder, and for 64-bit OS, load from the amd64 folder.



4. Select Z-Drive R4 from the list of available storage devices.



5. Click "Next" to start installation. Windows may reboot the system during installation.
6. After the installation is complete, follow the "Setting the Z-Drive R4 as a Boot Device" section below.

Windows Server 2003: Bootable Driver Installation Procedure

Requirements:

The following lists the requirements to build a Windows Server 2003 bootable driver floppy disk:

- A blank writable 1.44MB floppy disk
- A Windows PC with an internal floppy disk drive or an external USB drive; the system BIOS must support USB devices.
- The Windows Server 2003 platform requires an internal floppy disk drive or an external USB drive; the system BIOS must support USB devices.

Procedure To Create The Bootable Driver Floppy Disk:

1. Download the latest Z-Drive R4 Windows driver package from www.oczenterprise.com/drivers onto to a PC with a floppy disk drive.
2. Unzip the contents of the Z-Drive R4 driver package on the PC.
3. Insert the blank floppy disk.
4. Format the 1.44MB floppy disk with the FAT32 file system.
5. Open the folder on the PC where the Z-Drive R4 driver package is located.
6. Copy the "ocz10xx" file to the root of the floppy disk ("A:\ocz10xx").
7. Copy the "amd64" folder and contents to the root of the floppy disk ("A:\amd64\..").
8. Copy the "txtsetup.oem" file to the "amd64" driver folder on the floppy disk.
9. Copy the "i386" folder and contents to the root of the floppy disk ("A:\i386\..").
10. Copy the "txtsetup.oem" file to the "i386" driver folder on the floppy disk.

Floppy Layout:

ocz10xx
i386\ocz10xx.sys
i386\ocz10xx.inf
i386\ocz10xx.cat
i386\txtsetup.oem
amd64\ocz10xx.sys
amd64\ocz10xx.inf
amd64\ocz10xx.cat
amd64\txtsetup.oem

Bootable Driver Installation Procedure:

1. Power off the PC. Insert the OCZ Z-Drive R4 PCI Express SSD into an available PCI Express x8 slot.
2. Power up the PC.
3. Insert the Windows Server 2003 CD into the CD/DVD-ROM drive.
4. When prompted, press the F6 key for third party SCSI or driver installation at the beginning of text mode installation. Press the 'S' key when setup asks if you want to specify an additional device.
5. Insert the OCZ Z-Drive R4 bootable driver floppy disk. Press 'Enter'. From the menu presented next, select the OCZ Z-Drive R4 driver in the list and press the 'Enter' key.
6. Press 'Enter' key when prompted to continue on with text mode setup.
7. Follow the Windows 2003 setup instructions to partition and install the operating system.
8. Setup will copy files from the Windows Server 2003 CD to the OCZ Z-Drive R4 partition.
9. Restart the PC. After restarting, the setup process will resume to finish the Windows Server 2003 installation.

Setting the Z-Drive R4 as a Boot Device

1. To set the Z-Drive R4 as a boot device, the user must first change the boot order in the motherboard BIOS.

NOTE: Please consult the system's user manual for further detailed instructions on how to access the BIOS and modify its settings.

2. Change the Z-Drive R4 to the primary boot device.
3. Save the settings and exit the BIOS.
4. The Z-Drive R4 should now be the boot device.

Usage 2: Installation as a Storage Drive

Installing the Windows Driver to Use the Z-Drive R4 as a Storage Drive

The Z-Drive R4 can become a storage drive in a computer with an existing Windows installation.

1. Follow the "Hardware Installation" section to install the card into the computer.
2. Turn on the computer and boot to Windows.
3. Insert the CD/USB key prepared in the "Download the Latest Driver" section into the computer CD drive or USB slot.

4. Open up the CD/USB key and go to the driver folder. Run Setup by double-clicking (See Figure 5).

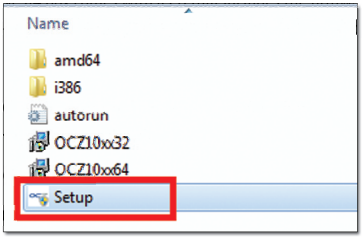


Figure 5: Driver Folder

5. The "Welcome to the OCZ 10xx Driver Setup Wizard" screen should pop up. Click on "Next" (See Figure 6).

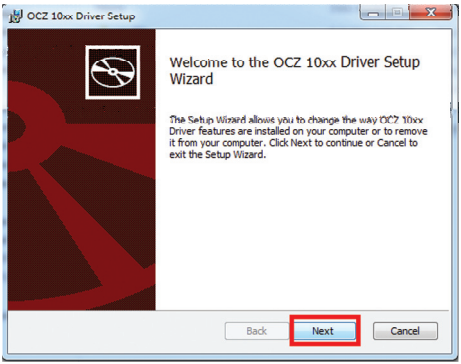

OCZ 10xx Driver Setup
Welcome to the OCZ 10xx Driver Setup Wizard
The Setup Wizard allows you to change the way OCZ 10xx Driver features are installed on your computer or to remove it from your computer. Click Next to continue or Cancel to exit the Setup Wizard.
Back
Next
Cancel

Figure 6: Driver Welcome Screen

6. In the "End User License Agreement" Screen, check "I accept the terms in the End User License Agreement," and click "Next" (See Figure 7).

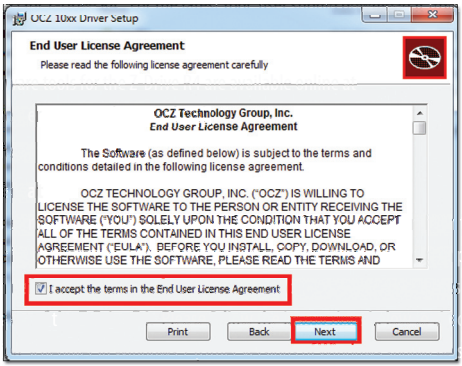

OCZ 10xx Driver Setup
End User License Agreement
Please read the following license agreement carefully
OCZ Technology Group, Inc.
End User License Agreement
The Software (as defined below) is subject to the terms and conditions detailed in the following license agreement.
OCZ TECHNOLOGY GROUP, INC. ("OCZ") IS WILLING TO LICENSE THE SOFTWARE TO THE PERSON OR ENTITY RECEIVING THE SOFTWARE ("YOU") SOLELY UPON THE CONDITION THAT YOU ACCEPT ALL OF THE TERMS CONTAINED IN THIS END USER LICENSE AGREEMENT ("EULA"). BEFORE YOU INSTALL, COPY, DOWNLOAD, OR OTHERWISE USE THE SOFTWARE, PLEASE READ THE TERMS AND
I accept the terms in the End User License Agreement
Print
Back
Next
Cancel

Figure 7: End User License Agreement Screen

7. Click "Install" (See Figure 8).

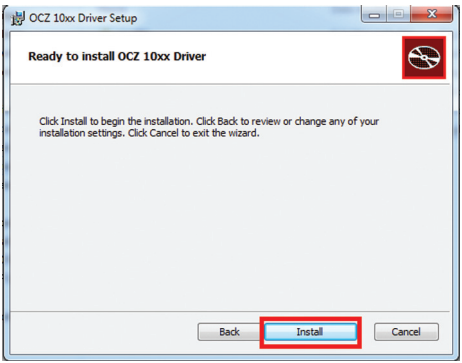

OCZ 10xx Driver Setup
Ready to install OCZ 10xx Driver
Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.
Back
Install
Cancel

Figure 8: Install Screen

8. The next screen should show the installation process (See Figure 9).

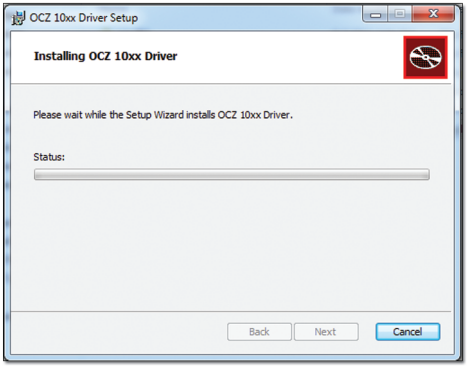


Figure 9: Installation Progress Bar

9. Click "Finish" to complete installation (See Figure 10).

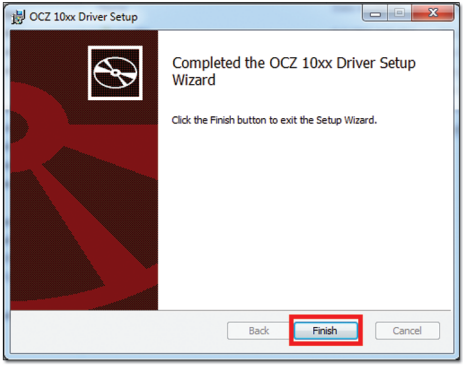


Figure 10: Complete Installation

10. Follow "Formatting Z-Drive R4 in Windows" section to start using the Z-Drive R4.

Re-installing the Windows Driver

1. Follow steps 3, 4, and 5 in "Installing the Windows Driver to Use the Z-Drive R4 as a Storage Drive" section.
2. Click "Repair" (See Figure 11).

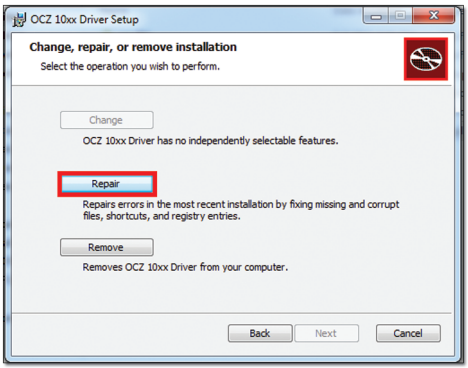

OCZ 10xx Driver Setup
Change, repair, or remove installation
Select the operation you wish to perform.
Change
OCZ 10xx Driver has no independently selectable features.
Repair
Repairs errors in the most recent installation by fixing missing and corrupt files, shortcuts, and registry entries.
Remove
Removes OCZ 10xx Driver from your computer.
Back
Next
Cancel

Figure 11: Repair/Remove Selection Screen

3. Click "Repair" to begin re-installation of the Windows driver (See Figure 12).

OCZ 10xx Driver Setup
Ready to repair OCZ 10xx Driver
Click Repair to repair the installation of OCZ 10xx Driver. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.
Back
Repair
Cancel

Figure 12: Repair Screen

4. Click "Finish" to complete re-installation (See Figure 13).

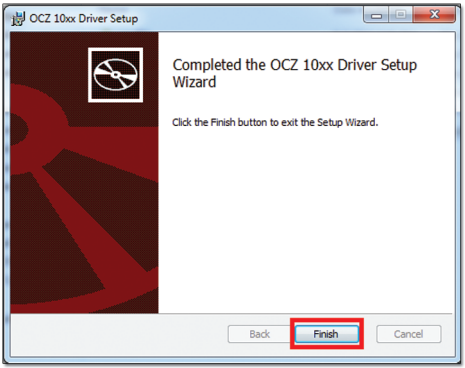


Figure 13: Complete Re-installation

Removing the Windows Driver

1. Follow steps 3, 4, and 5 in "Installing the Windows Driver to Use the Z-Drive R4 as a Storage Drive" section.
2. Click "Remove" (See Figure 14).

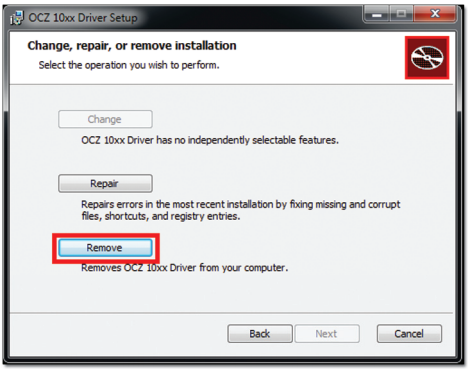

OCZ 10xx Driver Setup
Change, repair, or remove installation
Select the operation you wish to perform.
Change
OCZ 10xx Driver has no independently selectable features.
Repair
Repairs errors in the most recent installation by fixing missing and corrupt files, shortcuts, and registry entries.
Remove
Removes OCZ 10xx Driver from your computer.
Back
Next
Cancel

Figure 14: Repair/Remove Selection Screen

3. Click "Remove" to remove the Windows driver (See Figure 15).

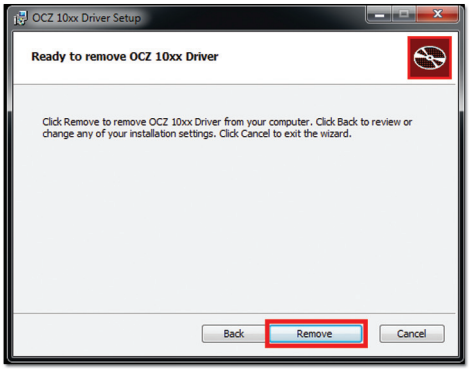

OCZ 10xx Driver Setup
Ready to remove OCZ 10xx Driver
Click Remove to remove OCZ 10xx Driver from your computer. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.
Back
Remove
Cancel

Figure 15: Remove Screen

4. Click "Finish" to complete removal (See Figure 16).

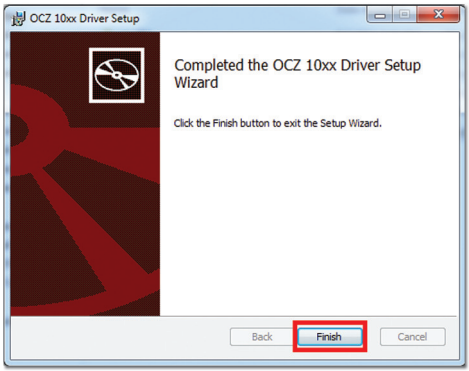


Figure 16: Complete Remove Driver

Formatting Z-Drive R4 in Windows

1. Click on the Windows Start button, right click "Computer" and select "Manage" (See Figure 17).

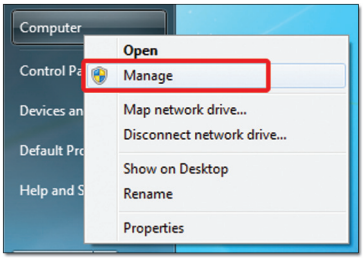


Figure 17: Select Manage Option

2. In "Computer Management" window, select "Storage" and click on "Disk Management" on the left menu. Wait for the "Initialize Disk" window to load and click "OK" (See Figure 18).

NOTE: If the Z-Drive R4 is already initialized, then this step can be skipped.

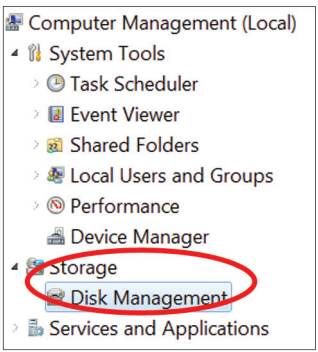


Figure 18: Disk Management Window

3. After the disks initialize, right click on the graphical bar representing the unallocated disks and select "New Simple Volume" to format the drive.
4. Follow the onscreen instructions to finish formatting the drive.

Update Z-Drive R4 in Windows

Update Windows Driver

1. Follow "Download the Latest Driver (Optional)" section to download the latest driver.
2. Double click on setup.exe to install the new updated driver. Follow the instructions on the screen

Update Firmware in Windows

1. Please refer to the Firmware Update Guide for Windows to update Z-Drive R4 Firmware.

NOTE: OCZ Toolbox must run in "administrator" mode.

Under Linux

Installing the Linux Driver to Use the Z-Drive R4 as a Storage Drive

The Z-Drive R4 can be used as a storage device in a computer with an existing Linux installation.

1. Follow the "Hardware Installation" section to install the Z-Drive into the computer.
2. Turn on the computer and boot Linux.
3. Insert the enclosed Driver CD or the CD/USB key prepared in the "Download the Latest Driver (Optional)" section into the computer CD drive or USB slot.
4. Copy ocz10XX.ko in the Linux folder to a location on the Linux host.
5. Open a terminal with root privileges.
6. Go to the location where ocz10XX.ko was copied to.
7. Load the driver by typing "insmod ocz10XX.ko" (See Figure 19).

```
[root@localhost Desktop]# insmod ocz10xx.ko
[root@localhost Desktop]#
```

Figure 19: Load Driver in Linux with insmod Command

8. The driver is installed when the cursor on the terminal returns.
9. Follow the "Formatting Z-Drive R4 in Linux" section to start using the Z-Drive R4.

Removing the Linux Driver

1. Open a terminal with root privileges.
2. Remove the driver by typing "rmmod ocz10xx.ko" (See Figure 20).

```
[root@localhost Desktop]# rmmod ocz10xx.ko
[root@localhost Desktop]#
```

Figure 20: Remove Driver in Linux with rmmod Command

3. The driver is removed when the cursor on the terminal returns.
4. If the driver module was not installed, a warning will pop up (See Figure 21).

```
[root@localhost ~]# rmmod ocz10xx.ko
ERROR: Module ocz10xx does not exist in /proc/modules
```

Figure 21: Attempt to rmmod on Non-existing Driver Module

Formatting Z-Drive R4 in Linux

NOTE: These instructions will cover the most common and basic usage to format drives under Linux environment. For the use of any other Linux tools, please consult the respective user guides of the tools. The screenshots are taken on RHEL. Other distributions may look different.

1. Open “Disk Utility” under “Applications->System Tools”.
2. On left panel, find the OCZ-ZDrive R4 and click on it (See Figure 22).

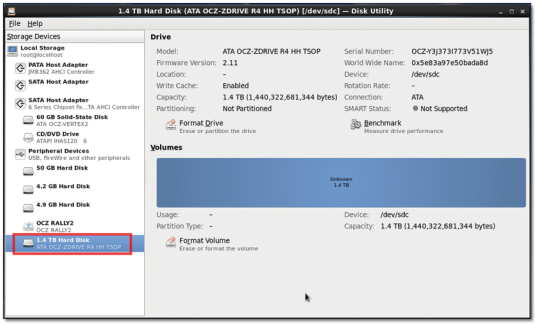


Figure 22: Find Z-Drive R4 in Disk Utility

3. Click “Format Drive” (See Figure 23).

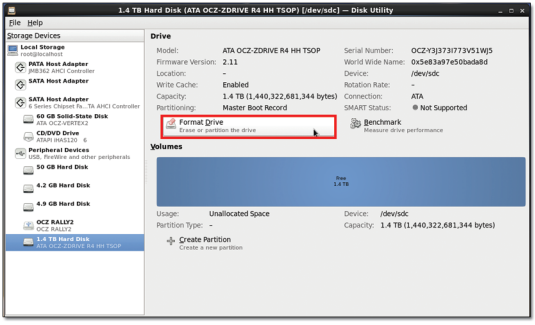


Figure 23: Format Z-Drive R4

4. Pick "Master Boot Record" Click "Format" (See Figure 24).

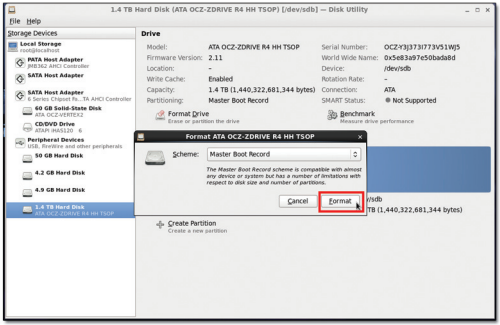

1.4 TB Hard Disk (ATA OCZ-ZDRIVE R4 HH TSOP) [/dev/sdb] — Disk Utility
File Help
Storage Devices
Drive
Model: ATA OCZ-ZDRIVE R4 HH TSOP
Firmware Version: 2.11
Location: -
Write Cache: Enabled
Capacity: 1.4 TB (1,440,322,681,344 bytes)
Partitioning: Master Boot Record
Serial Number: OCZ-Y3J373I773V51WJ5
World Wide Name: 0x5e83a97e50bada8d
Device: /dev/sdb
Rotation Rate: -
Connection: ATA
SMART Status: Not Supported
Format Drive
Erase or partition the drive
Benchmark
Measure drive performance
Format ATA OCZ-ZDRIVE R4 HH TSOP
Scheme: Master Boot Record
The Master Boot Record scheme is compatible with almost any device or system but has a number of limitations with respect to disk size and number of partitions.
Cancel
Format
Create Partition
Create a new partition

Figure 24: Pick Master Boot Record Scheme

5. Click "Format" when the warning prompt is posted (See Figure 25).

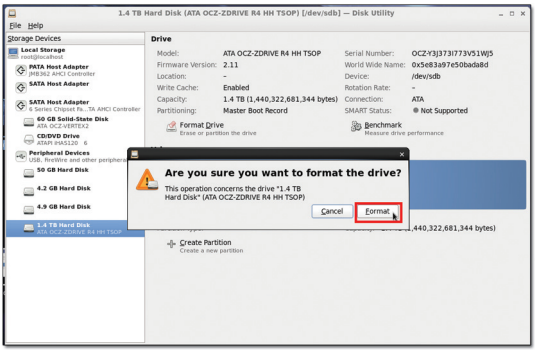


Figure 25: Confirm Format

6. Wait until the format is complete.

7. Click "Create Partition" (See Figure 26).

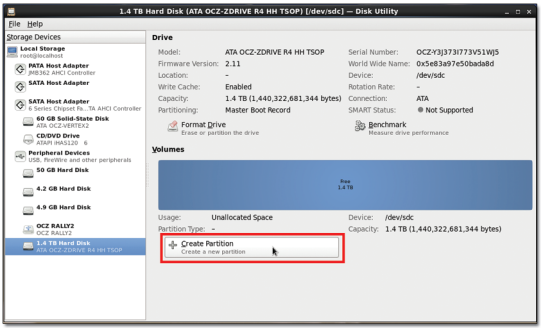


Figure 26: Create Partition

8. Click "Create" (See Figure 27).

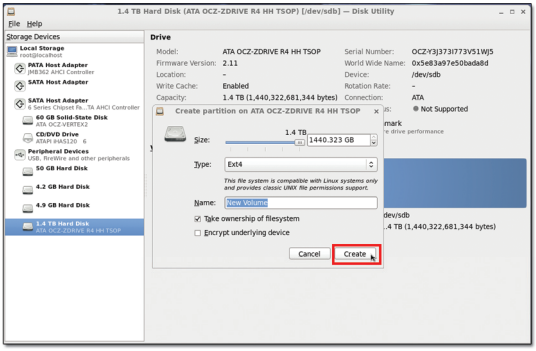

1.4 TB Hard Disk (ATA OCZ-ZDRIVE R4 HH TSOP) [/dev/sdb] — Disk Utility
File Help
Storage Devices
Drive
Model: ATA OCZ-ZDRIVE R4 HH TSOP
Firmware Version: 2.11
Location: -
Write Cache: Enabled
Capacity: 1.4 TB (1,440,322,681,344 bytes)
Serial Number: OCZ-Y3J373I773V51WJ5
World Wide Name: 0x5e83a97e50bada8d
Device: /dev/sdb
Rotation Rate: -
Connection: ATA
Create partition on ATA OCZ-ZDRIVE R4 HH TSOP
Size: 1.4 TB 1440.323 GB
Type: Ext4
This file system is compatible with Linux systems only and provides classic UNIX file permissions support.
Name: New Volume
Take ownership of filesystem
Encrypt underlying device
Cancel
Create
dev/sdb
.4 TB (1,440,322,681,344 bytes)

Figure 27: Confirm Create

9. Wait until creating partition is finished (See Figure 28).

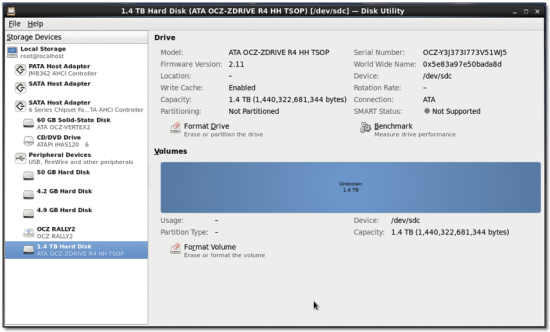


Figure 28: Creating Partition

10. The final Disk Utility screen should look like this: (See Figure 29).

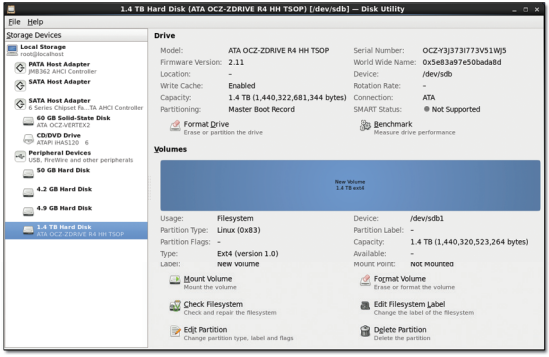


Figure 29: Finish Format

VMware Driver Installation

Install OCZ Z Drive R4 driver on existing ESXi 5.0 host using esxcli

An existing ESXi 5.0 host can install the OCZ Z-Drive R4 driver from a VIB file. The VIB file is copied to the ESXi 5.0 host using the datastore browser, and installed using esxcli in the ESXi Shell.

Note: This requires remote ESXi network connectivity using vSphere client.

To install the OCZ Z-Drive R4 driver:

1. Download and extract the latest drivers for Z-Drive R4 from
   http://www.oczenterprise.com/drivers.html
2. Log in to the ESXi host using vSphere client with administrator privileges, such as root.
3. Using Datastore Browser, upload the scsi-ocz[version].VIB file to an ESXi host's datastore.
4. Enter the host into maintenance mode.
5. Log in as root to the ESXi console through SSH.
6. Run this command to install driver from the VIB file (requires absolute path):

   esxcli software vib install -v <full path to VIB>

   For example:

   esxcli software vib install –v /vmfs/volumes/datastore/scsi-ocz10xx-0.9.1-10EM.500.0.0.472560.x86_64.vib

7. Reboot the ESXi host.
8. Exit maintenance mode.

Appendix

Formatting Z-Drive From The Linux Command Line

Follow these steps to prepare a Z-Drive for use under Linux using line-mode commands

Fdisk and parted can both be used to partition a drive. If a drive is larger than 2TB parted must be used. Since most Z-Drives are larger than 2TB the examples that follow show the use of parted.

Use parted to display a new out-of-the box uninitialized drive

```
[root@x8dah oczeng]# parted /dev/sdc print
Error: /dev/sdc: unrecognised disk label
[root@x8dah oczeng]#
```

Use parted to put a gpt label on the drive

```
[root@x8dah oczeng]#
[root@x8dah oczeng]# parted /dev/sdc mklabel gpt
Information: You may need to update /etc/fstab.

[root@x8dah oczeng]#
```

USE parted to print drive information and prove the gpt label was applied. Parted now shows a 1.6TB Z-Drive

```
[root@x8dah oczeng]#
[root@x8dah oczeng]# parted /dev/sdc print
Model: ATA OCZ Z-DRIVE R4 R (scsi)
Disk /dev/sdc: 1600GB
Sector size (logical/physical): 512B/4096B
Partition Table: gpt

Number  Start  End  Size  File system  Name  Flags

[root@x8dah oczeng]#
```

Use parted to put a partition on the drive. In this case a single partition using all capacity is used.

```
[root@x8dah oczeng]#
[root@x8dah oczeng]# parted /dev/sdc mkpart 1 ext2 0 1.6T
Information: You may need to update /etc/fstab.

[root@x8dah oczeng]#
```

Use parted to display drive information and verify the partition was created

```
[root@x8dah oczeng]#
[root@x8dah oczeng]# parted /dev/sdc print
Model: ATA OCZ Z-DRIVE R4 R (scsi)
Disk /dev/sdc: 1600GB
Sector size (logical/physical): 512B/4096B
Partition Table: gpt

Number  Start   End     Size    File system  Name  Flags
1      17.4kB  1600GB  1600GB               1

[root@x8dah oczeng]#
```

Use mkfs to put a file system on the partition

```
[root@x8dah oczeng]#
[root@x8dah oczeng]# mkfs -t ext4 /dev/sdc1

mke2fs 1.41.12 (17-May-2010)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=1 blocks, Stripe width=0 blocks
97681408 inodes, 390721910 blocks
19536095 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=4294967296
11924 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,
4096000, 7962624, 11239424, 20480000, 23887872, 71663616, 78675968,
```

```
102400000, 214990848

Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done

This filesystem will be automatically checked every 30 mounts or
180 days, whichever comes first.  Use tune2fs -c or -i to override.
[root@x8dah oczeng]#
```

Use parted to print drive information and verify the file system was created correctly

```
[root@x8dah oczeng]#
[root@x8dah oczeng]# parted /dev/sdc print
Model: ATA OCZ Z-DRIVE R4 R (scsi)
Disk /dev/sdc: 1600GB
Sector size (logical/physical): 512B/4096B
Partition Table: gpt

Number  Start   End     Size    File system  Name  Flags
 1      17.4kB  1600GB  1600GB  ext4         1

[root@x8dah oczeng]#
```

Create a mount point

```
[root@x8dah oczeng]#
[root@x8dah oczeng]# mkdir /mnt/ocz
[root@x8dah oczeng]#
```

Mount the file system to the mount point

```
[root@x8dah oczeng]#
[root@x8dah oczeng]# mount /dev/sdb1 /mnt/ocz
mount: you must specify the filesystem type
[root@x8dah oczeng]# mount /dev/sdc1 /mnt/ocz
[root@x8dah oczeng]#
```

Use the mount command to verify the Z-Drive file system is mounted

```
[root@x8dah oczeng]#
[root@x8dah oczeng]# mount
/dev/mapper/vg_x8dah-lv_root on / type ext4 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
tmpfs on /dev/shm type tmpfs (rw,rootcontext="system_u:object_r:tmpfs_t:s0")
/dev/sda1 on /boot type ext4 (rw)
/dev/mapper/vg_x8dah-lv_home on /home type ext4 (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
/tmp on /tmp type none (rw,bind)
/var/tmp on /var/tmp type none (rw,bind)
/home on /home type none (rw,bind)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
192.168.96.25:/mnt/volume1 on /mnt/toaster type nfs (rw,addr=192.168.96.25)
/dev/sdc1 on /mnt/ocz type ext4 (rw)
[root@x8dah oczeng]#
[root@x8dah oczeng]#
[root@x8dah oczeng]#
[root@x8dah oczeng]# df -h
Filesystem                      Size  Used Avail Use% Mounted on
/dev/mapper/vg_x8dah-lv_root
                                 24G  7.3G   16G  33% /
tmpfs                           1.9G  500K  1.9G   1% /dev/shm
/dev/sda1                       485M   64M  396M  14% /boot
/dev/mapper/vg_x8dah-lv_home
                                 21G  848M   19G   5% /home
192.168.96.25:/mnt/volume1
                                290G   88G  202G  31% /mnt/toaster
/dev/sdc1                       1.5T  198M  1.4T   1% /mnt/ocz
[root@x8dah oczeng]#
```

The Z-Drive is now ready to use.

LIMITED WARRANTY

OCZ Technology products epitomize the new vanguard of quality standards as part of our commitment to customers. All OCZ Technology Group ("OCZ") products are warranted and tested to be free of defects in material and workmanship and conform to published specifications. Should your OCZ product fail within the warranty period (under normal use in the recommended environment) due to improper workmanship or materials, OCZ will repair the product or replace it with a comparable or better unit. This warranty is subject to the conditions and limitations set forth herein.

DURATION OF WARRANTY

The OCZ Z-Drive R4 is covered by this warranty for 3 years from the date-of-purchase. Proof-of-purchase including the date-of-purchase is required to collect on the warranty. OCZ will inspect the product and decide whether to repair or replace it. OCZ reserves the right to provide a functional equivalent product, or a refurbished replacement product.

LIMITATIONS

This warranty does not apply to product failure caused by accidents, abuse, mishandling, improper installation, alteration, acts of nature, improper usage, or problems with electrical power. In addition, opening or tampering with the product casing, or any physical damage, abuse, or alteration to the product's surface, including all warranty or quality stickers, product serial or electronic numbers, will also void the product warranty. OCZ is not responsible for recovering any data lost due to the failure of a flash memory device. OCZ products must be used with devices that conform to the recommended industry standards. OCZ will not be liable for damages resulting from a third party device that causes the OCZ product to fail. OCZ shall in no event be liable for any consequential, indirect, or incidental damages, lost profits, lost business investments, lost goodwill, or interference with business relationships as a result of lost data. OCZ is also not responsible for damage or failure of any third-party equipment, even if OCZ has been advised of the possibility. This limitation does not apply to the extent making it illegal or unenforceable under applicable law.

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